

Amadeus for Developers

#1A4DEV

powered by  API Suite

# Amadeus for Developers

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03JUL17





Become aware of  
“Amadeus for Developers”

# Amadeus in a few words

- \_ We are the leading technology company dedicated to the global travel industry
- \_ We are present in 190+ countries and employ 14,000+ people worldwide
- \_ Our solutions enrich travel for billions of people every year
- \_ We work together with our customers, partners and other players in the industry to improve business performance and **shape the future of travel**



**595 million total bookings processed in 2016**  
using the Amadeus distribution platform



**1.4 billion passengers boarded in 2016**  
with Amadeus and Navitaire solutions



**1 of the world's top 10 software companies**  
Forbes 2016 global rankings



**5<sup>th</sup> consecutive year included in the DJSI**  
The only travel technology company in the  
Dow Jones Sustainability Index in 2016

# amADEUS & AtOS

\_A **close collaboration** on an **Open API** program: « Amadeus for Developers »

- API management consulting
- Security expertise
- Portal delivery
- Tooling marketscope study

# Agenda

1. The API economy
2. Amadeus for Developers program
3. Behind the hood
4. Developer portal preview
5. Wrap-up

1.

## The API Economy

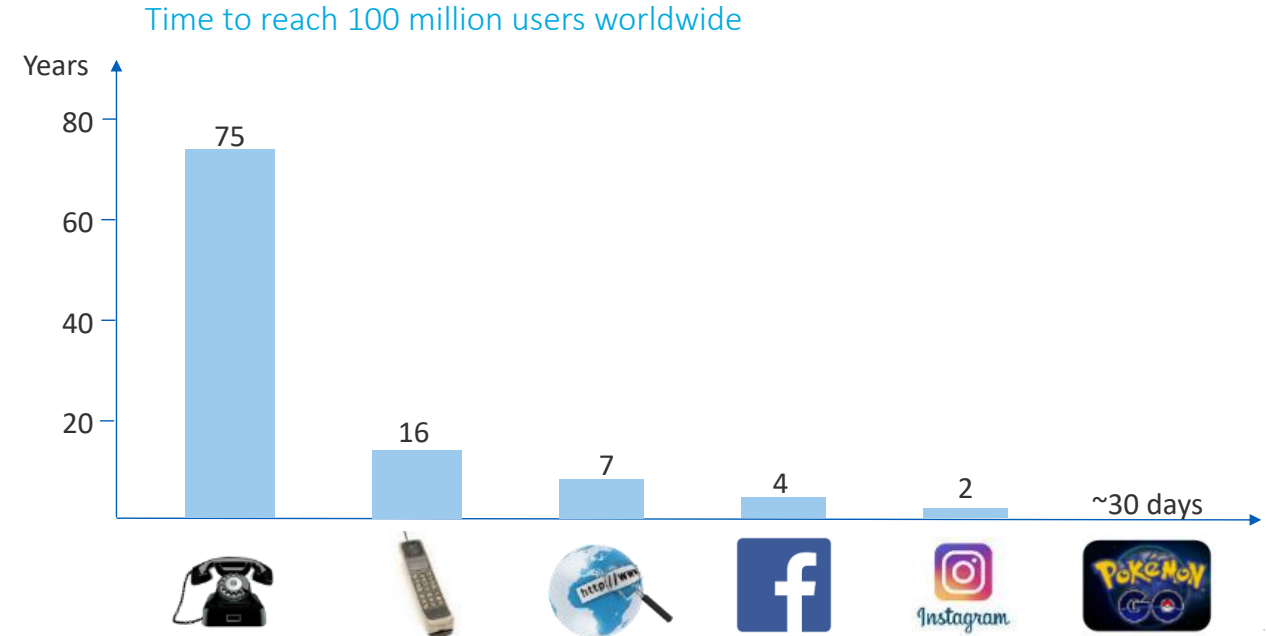


# Game is changing...



*“We didn’t do anything wrong, but somehow, we lost”*

– Stephen Elop (Nokia CEO), 2013

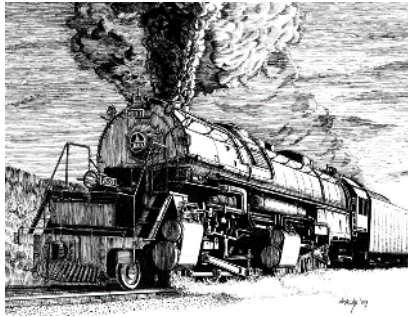


The advantage you have yesterday, will be replaced by the trends of tomorrow.

You don't have to do anything wrong, as long as your competitors catch the wave and do it RIGHT,

you can lose out and fail...

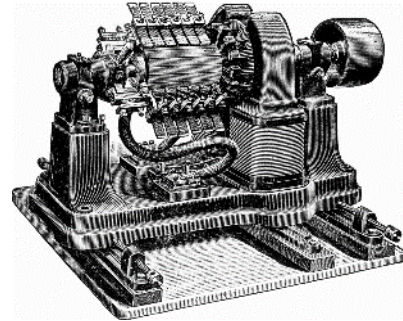
# Industry 4.0



Steam power

1.0 (1784)

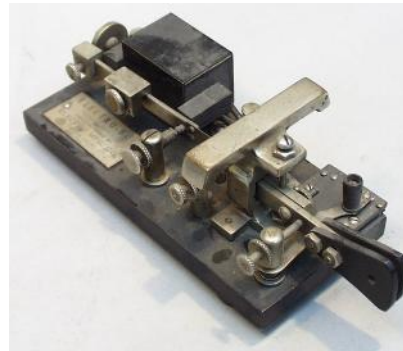
Mail



Electrical power

2.0 (1870)

Telegraphy



Automation

3.0 (1969)

Internet



4.0 (2017)



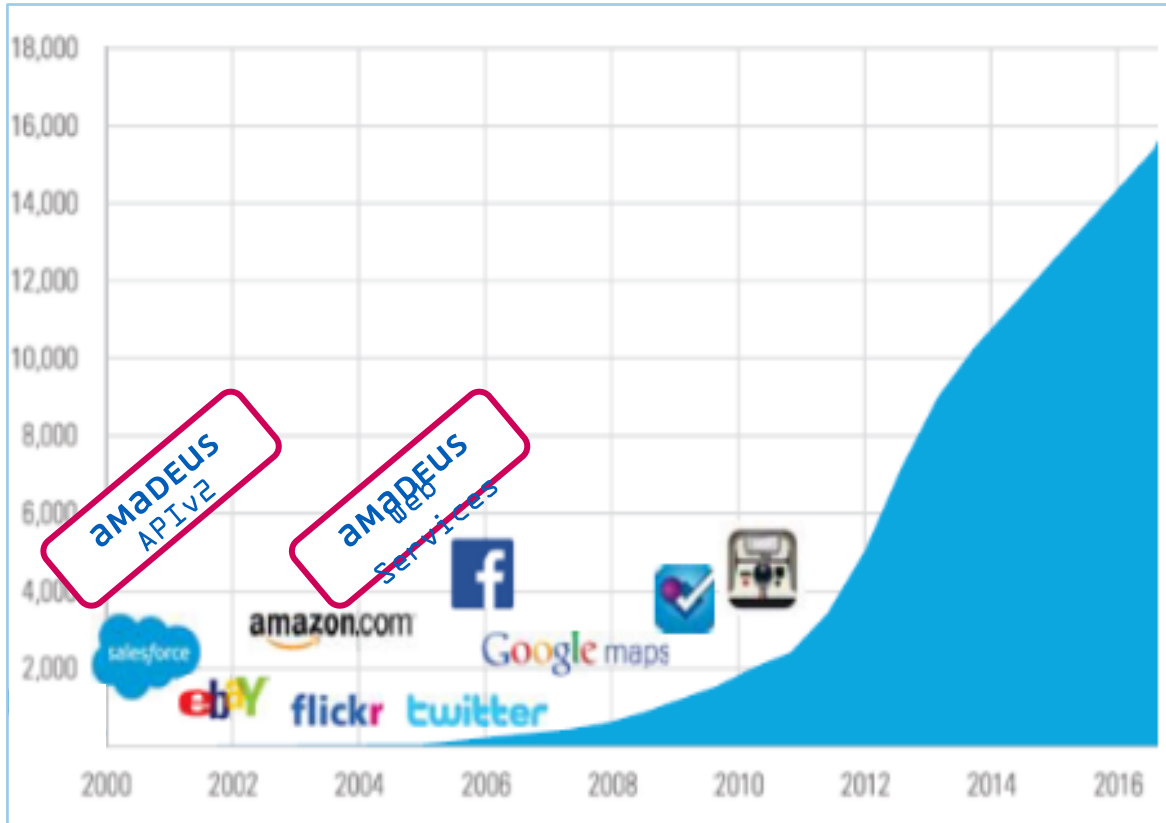
Smart  
Connected  
Devices

AMADEUS & AtoS

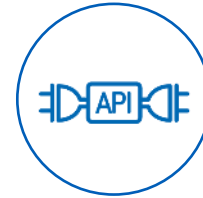


# The API economy is now exploding

Open APIs are not just a trend anymore, they are a necessity



Programmable Web API Directory Growth (adapted by TIRB)



**15,160+**  
Public APIs  
in Programmable Web



**75%**  
Fortune-1000 companies  
offer Public APIs



**50%**  
Gartner's Strategic Trends  
are related to APIs



**\$25B**  
API's Dev for Mobile Apps Value  
(2015, est.)



**\$10B**  
Amazon revenues  
through APIs

Sources: Gartner, Accenture, Programmable Web, Phocuswright & Others

# APIs are the glue of the digital economy



*“Without APIs, more than half of the major technological trends could not be possible”*

– Gartner



## Why APIs are disrupting our World



Speed to market + agile innovation



Multichannel strategies + new business models



Unlock value of existing data



Improve internal processes



Deliver connected digital experiences



“APIs first” approach

2.

## The Amadeus for Developer program



# Mathilde



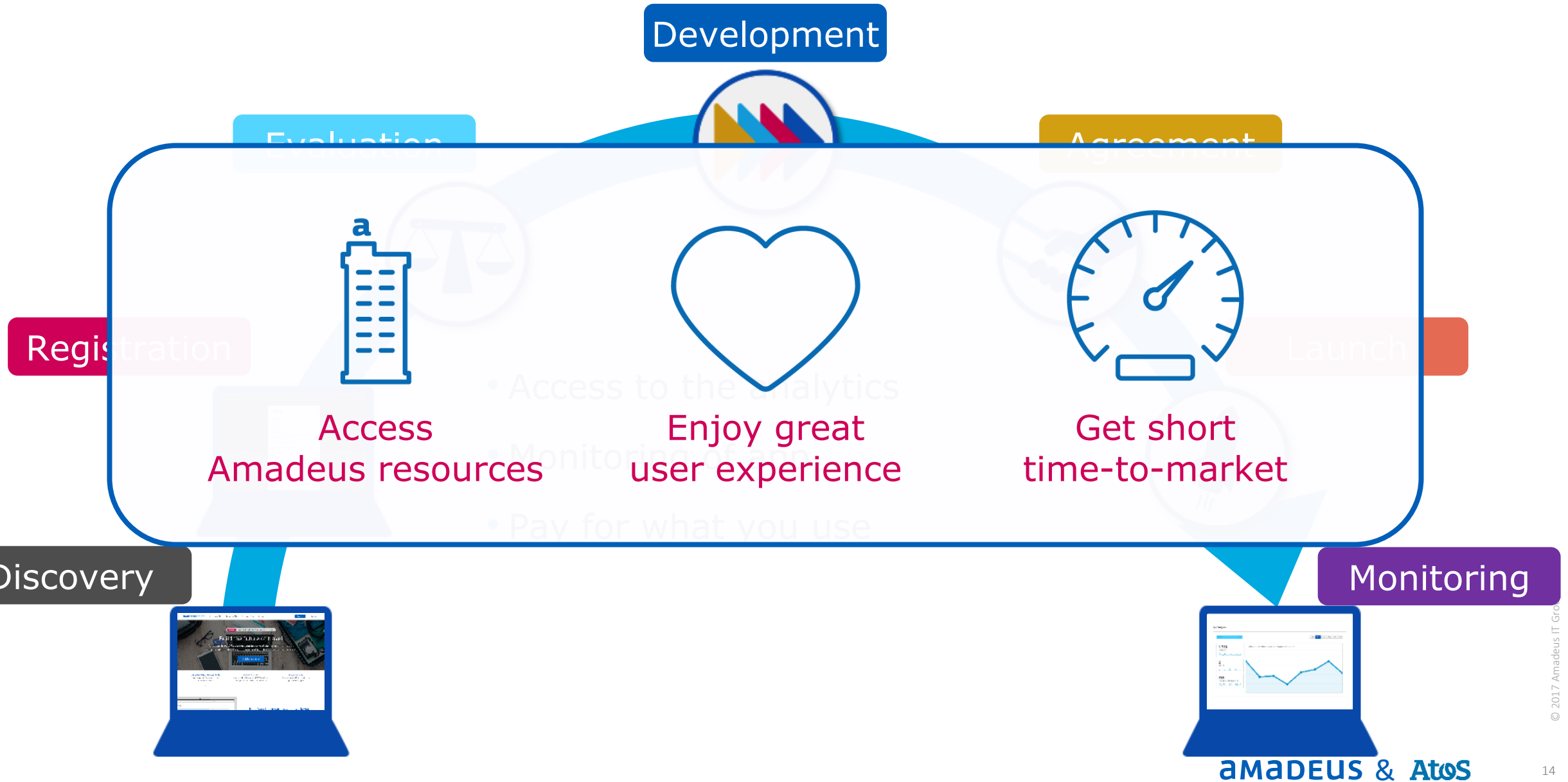
Aloha  
Surf



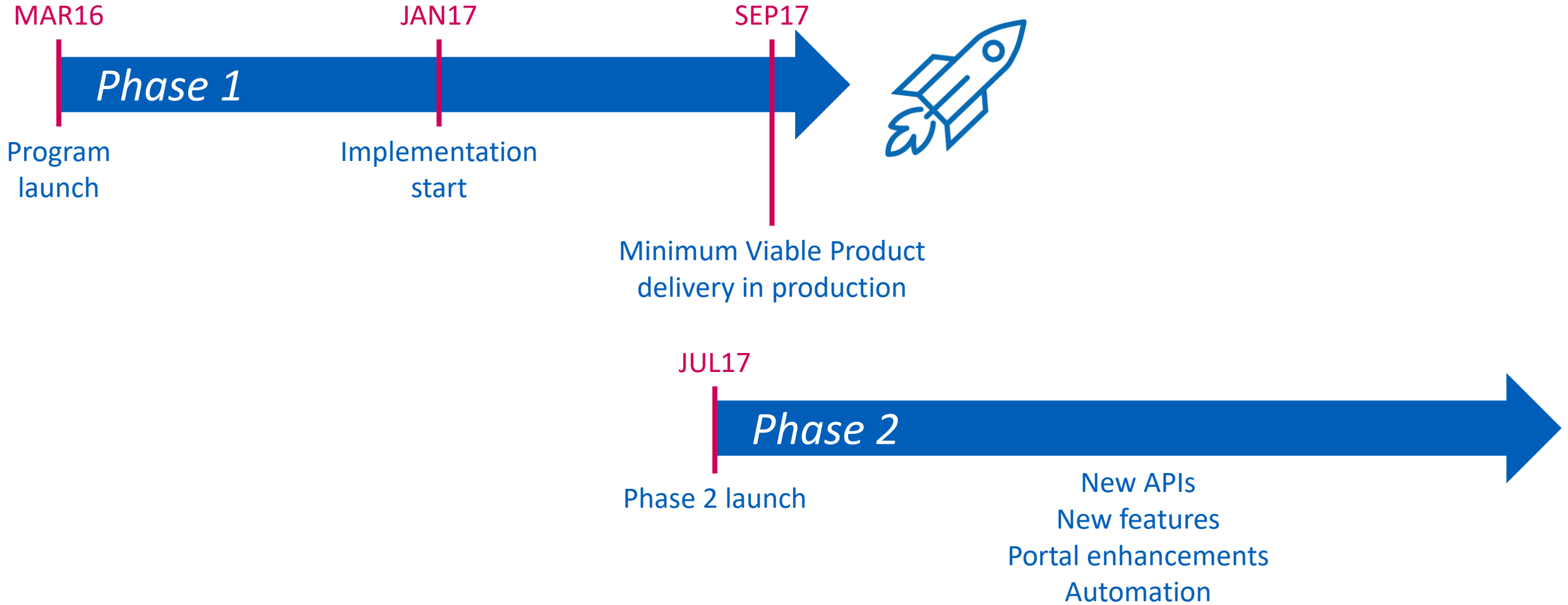
In Mathilde's mind



# Mathilde's journey



# Program roadmap



3.

Behind the hood





# A full API ecosystem to build

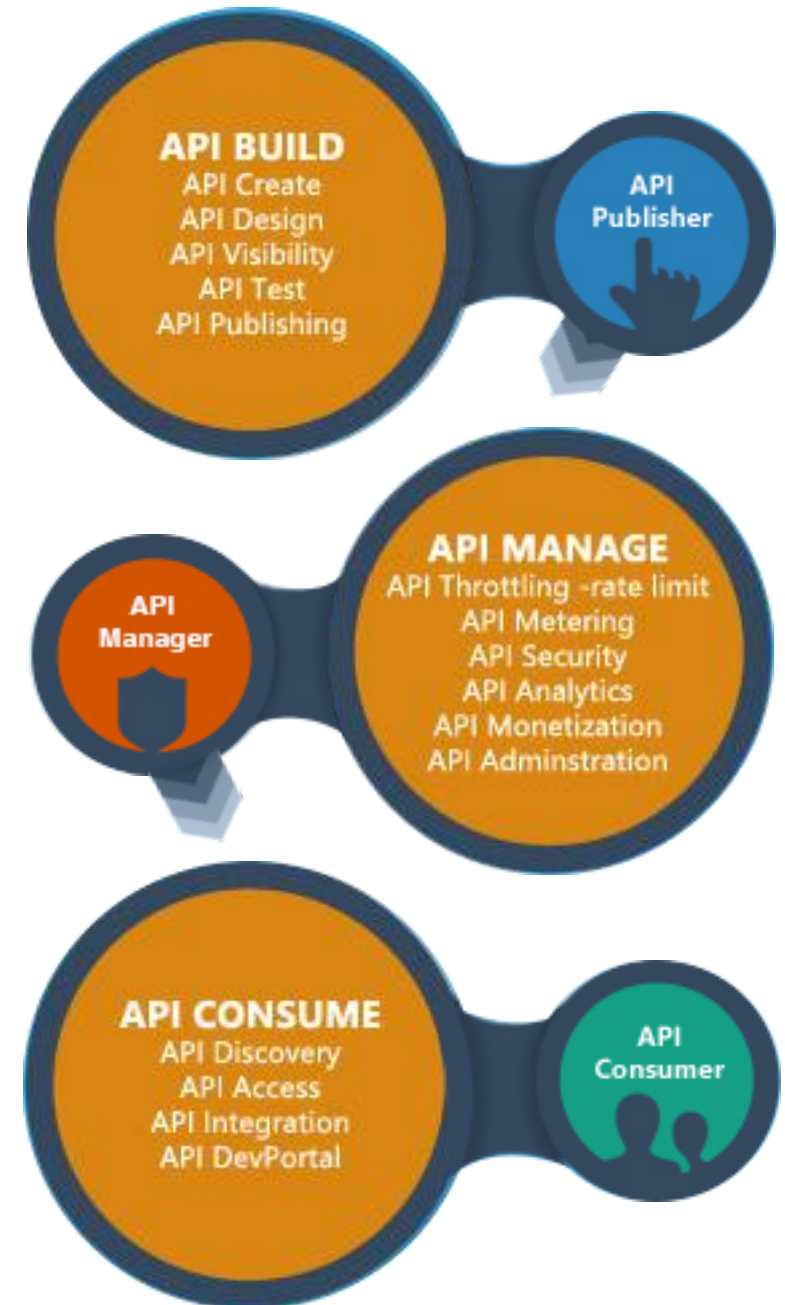
\_A **tool suite** for API designers and developers industrialization

\_An **API gateway** for exposing secured and reliable resources

\_A **portal** for an enhanced developer experience

## \_Goals

- Improve **API governance**
- Industrialize the **whole API lifecycle**
- Improve **API developer experience**



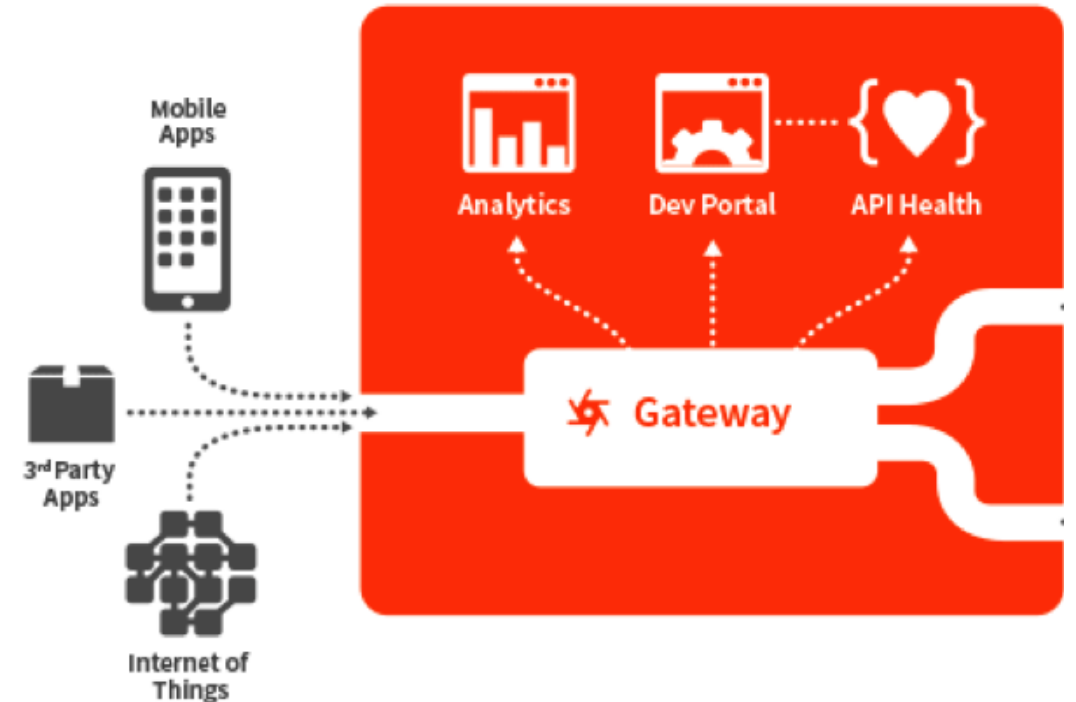
# Gateway study

\_ Amadeus has started with Apigee SaaS version for a POC

\_ End 2016: **marketscope study** realized to fulfil to Amadeus production criteria

\_ Shortlisted solutions

- **apigee**
- **ca technologies**
- **3scale by Red Hat**
- **MASHERY**



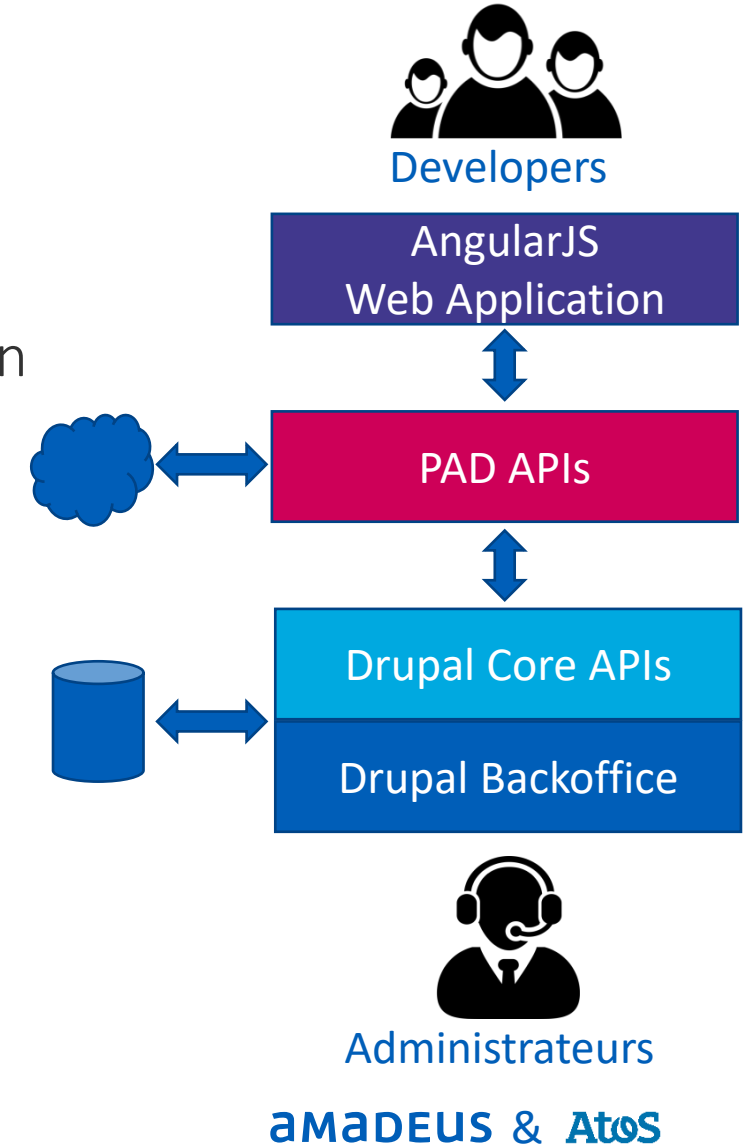
# Portal technical choices

## Customized portal with strong integration with Amadeus ecosystem

- Existing Amadeus Enterprise portal
- Internal API for retrieving API catalogs and user information
- Amadeus security system integration

## New CMS features with Drupal 8 headless approach

- Drupal is used as the back-office portal for administration
- Content types resources are exposed through REST APIs
- AngularJS front end application is handling the customer facing



# API standard choice

Amadeus has made the choice to follow **Open API initiative** specification on

- Documentation cleanup
- Specification documentation structure and supporting docs
- Protocols and Payloads
- Security
- Unique path definition
- Restructure request parameters
- Structural improvements



VS.



AMADEUS & Atos

# Tool suite for REST APIs

## \_Homemade tools

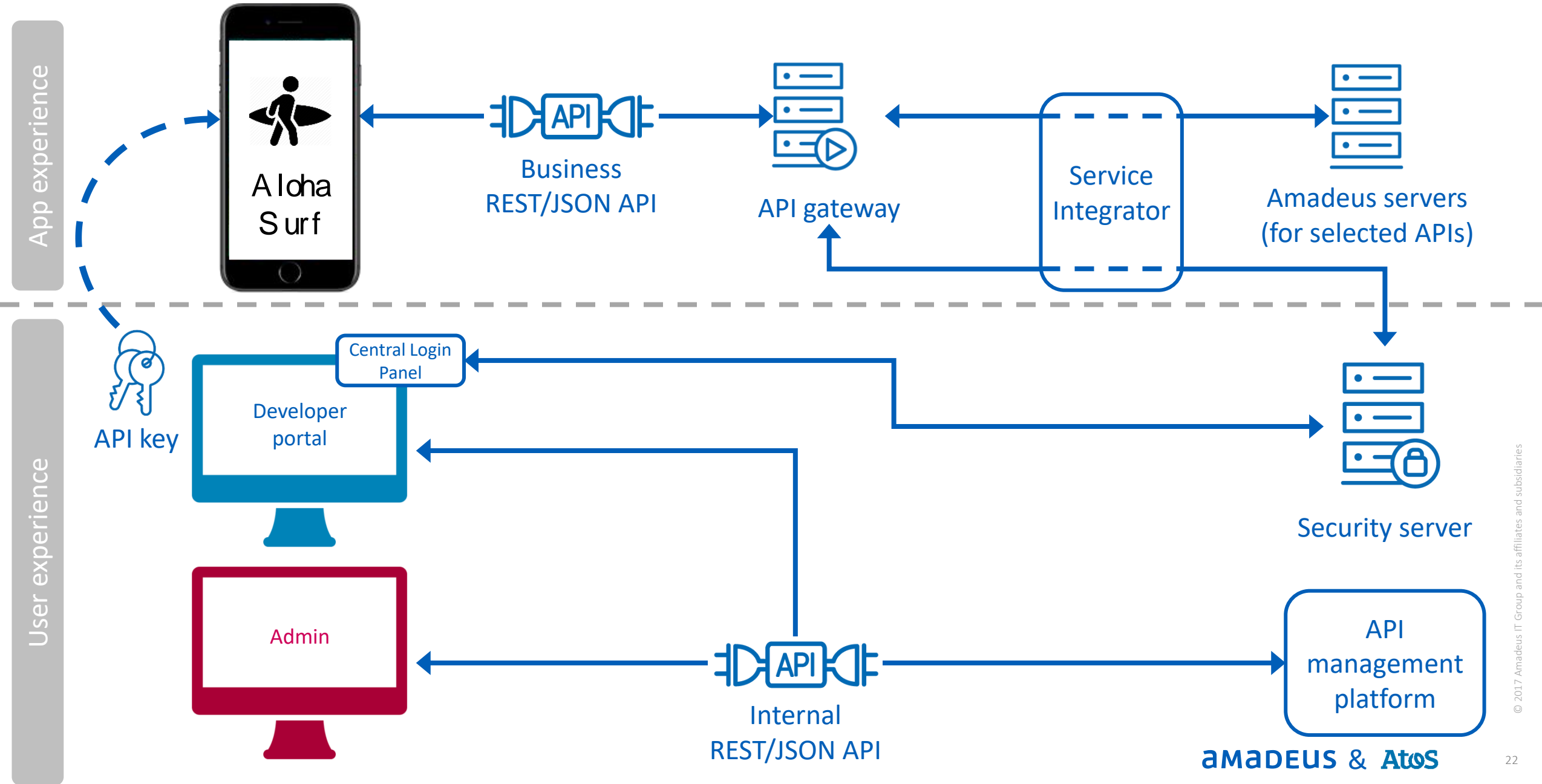
- Swagger builder for code generation

## \_Under study / next steps

- Marketscope study on API Designer tooling
  - Swagger Hub
  - RESTLET
  - Apiary
  - Apicurio studio
- Some expected features
  - Integration with an enterprise dictionary as data model
  - API blue prints / Templates
  - APIs validation
  - Model search and drag & drop features
  - Listing APIs using a model
  - Versions comparison



# Solution architecture



PROTOTYPE

Hackaton Upcoming MHacks 8 on November 26! [Learn more](#)

# Build the future of travel

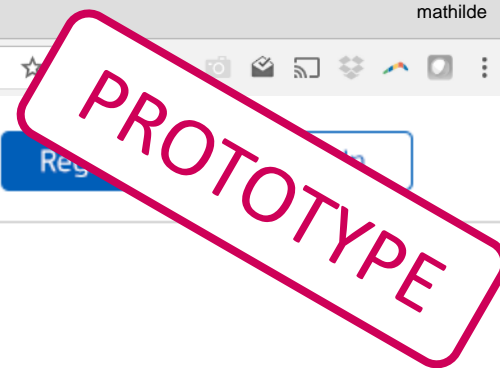
Amadeus Travel APIs connect you to some of the richest information in the travel industry. Play, innovate, and launch your custom application.

Quick start guide

**Discover what you can build**  
Need inspiration? Take a look at some of our featured APIs.

**Self-service APIs**  
New to Amadeus? Easy-to-use REST/JSON APIs and faster processes to launch your applications.

**Enterprise APIs**  
Select from over 500 web services and get dedicated support.



Home / APIs / Air / Flight Low-Fare Search

# Flight Low-Fare Search

REST

Version 2

Register to get a free API key and start testing today!

This service requires an API key to be tested. [Why do I have to register?](#)

[Get a free API key](#)

## Overview

This is the low fare search engine Amadeus uses to retrieve the best price for flights, based on our latest Master Pricer Travel Board technology. This document describes how to make a low fare search and how to handle the returned messages.

The message is composed of multiple results for given request. A result is defined by a unique combination of price, tax, passenger type, fare type, cabin, and availability for each requested segment.

- On this page
- [Overview](#)
  - [Examples](#)
  - [Try It](#)
  - [Reference](#)
  - [Related APIs](#)

- [Learn more](#)
- [> Technical Guides](#)

### Air APIs

#### Search & Shopping

Flight Inspiration Search

Flight Low-Fare Search

Flight Search by Calendar

#### Travel Intelligence

Top Flight Destinations

Fare Search History

#### Utilities

Check-in Links

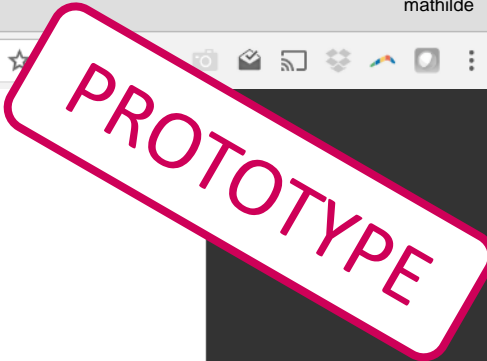
Nearest Relevant Airport

Airport Lists by City/Country

### Hotel APIs

#### Search & Shopping





### Example: What about the kids?

Return flight for 2 adults, 3 children and an infant, direct from Istanbul to Boston on October 15th, direct from Boston to Istanbul arriving no later than October 21st at 20:00, preferring Turkish Airlines.

#### Request



```
GET http://api.sandbox.amadeus.com/v1.2/flights/low-fare-search?origin=IST&destination=BOS&departure_date=2015-10-15&return_by=2015-10-21T20:00&adults=2&children=3&infants=1&direct=true&include_airlines=TK&apikey=<your API key>
```

#### Response



```
{
  "currency": "USD",
  "results": [ {
    "itineraries": [ {
      "outbound": {
        "flights": [ {
          "departs_at": "2015-10-15T13:25",
          "arrives_at": "2015-10-15T17:00",
          "origin": {
            "airport": "IST",
            "terminal": "I"
          },
          "destination": {
            "airport": "BOS",
            "terminal": "E"
          },
          "marketing_airline": "TK",
          "operating_airline": "TK",
          "flight_number": "81",
          "status": "OK"
        }
      ]
    }
  ]
}
```

5.

Wrap-up



# Wrap-up



## The API economy

- 4<sup>th</sup> industrial revolution: time to market competition
- Open innovation → “adapt or die”



## Amadeus for Developers

- Expose some APIs in self-service way
- Enhance developer experience for startups and traditional customers



## API Enterprise Governance

- Ensure enterprise consistency in API offering
- Enhance API producer experience

# Thank you!

